

Serial No. 10/092,746
Page 2 of 12

LISTING OF CLAIMS:

Please reconsider the claims as follows:

- 1 1. (previously presented) A method, comprising:
2 reducing the power level of an optical data signal propagating in an optical fiber
3 path in response to a loss of a counter-propagating supervisory signal in the optical fiber
4 path;
5 reducing counter-propagating optical power in response to a loss of the optical
6 data signal; and
7 responsive to the loss of the optical data signal, reducing counter-propagating
8 optical signal power output from at least one additional network element by a
9 predetermined amount.

2. (canceled).

- 1 3. (previously presented) The method of claim 1, wherein the step of reducing the
2 power level of the optical data signal and the step of reducing counter-propagating optical
3 power are performed substantially at the same time.

- 1 4. (previously presented) The method of claim 1, wherein the step of reducing the
2 power level of the optical data signal comprises at least one of:
3 reducing pump power supplied by at least one pump source coupled to the optical
4 fiber path; and
5 reducing gain supplied by at least one optical amplifier coupled to the optical fiber
6 path.

- 1 5. (previously presented) The method of claim 4, wherein the step of reducing the
2 counter-propagating optical power comprises reducing counter-propagating pump power
3 supplied by at least one pump source coupled to the optical fiber path.

Serial No. 10/092.746

Page 3 of 12

1 6. (previously presented) The method of claim 1, wherein the power level of the
2 optical data signal is reduced by a predetermined amount such that harm from an optical
3 signal emanating from a fault in the optical fiber path is substantially reduced.

1 7. (previously presented) The method of claim 1, wherein the counter-propagating
2 optical power is reduced by a predetermined amount such that harm from an optical
3 signal emanating from a fault in the optical fiber path is substantially reduced.

1 8. (previously presented) The method of claim 1, further comprising the step of
2 restoring the power level of the optical data signal in response to the presence of the
3 counter-propagating supervisory signal.

1 9. (previously presented) The method of claim 1, further comprising the step of
2 restoring the counter-propagating optical power in response to a notification of the
3 presence of the counter-propagating supervisory signal.

1 10. (previously presented) A method, comprising:
2 a) detecting loss of a supervisory signal counter-propagating in an optical fiber
3 path at a first network element;
4 b) responsive to the loss of the supervisory signal in the optical fiber path,
5 reducing the power level of an optical data signal output to the optical fiber path from the
6 first network element by a predetermined amount;
7 c) detecting loss of the optical data signal propagating in the optical fiber path at a
8 second network element;
9 d) responsive to the loss of the optical data signal, reducing counter-propagating
10 optical power output from the second network element by a predetermined amount; and
11 e) responsive to the loss of the optical data signal, reducing counter-propagating
12 optical signal power output from a third network element by a predetermined amount.

11. (canceled)

627833-2

Serial No. 10/092,746

Page 4 of 12

1 12. (previously presented) The method of claim 10, wherein the steps b) and d) are
2 performed substantially at the same time.

1 13. (original) The method of claim 10, wherein step b) comprises at least one of:
2 reducing pump power supplied by at least one pump source coupled to the optical
3 fiber path in the first network element; and
4 reducing gain of at least one optical amplifier coupled to the optical fiber path in
5 the first network element.

1 14. (previously presented) The method of claim 10, wherein step d) comprises
2 reducing counter-propagating pump power supplied by at least one pump source coupled
3 to the optical fiber path in the second network element.

1 15. (canceled)

1 16. (previously presented) A network element adapted for use in an optical
2 transmission system, comprising:
3 a first gain element, for providing an upstream optical signal to an upstream
4 optical fiber path;
5 a controller, for reducing the power level of the upstream optical signal generated
6 by the first gain element to the upstream optical fiber path in response to the absence of a
7 counter-propagating supervisory signal in the upstream optical fiber path;
8 a second gain element, for providing a counter-propagating downstream optical
9 signal to an downstream optical fiber path; and
10 the controller, for reducing the power level of the counter-propagating
11 downstream optical signal generated by the second gain element to the downstream
12 optical fiber path in response to the loss of an optical signal propagating in the
13 downstream optical fiber path, wherein the controller, in response to the absence of the

627833-2

Serial No. 10/092.746

Page 5 of 12

14 counter-propagating supervisory signal, provides an indication to a downstream network
15 element that the supervisory signal is absent.

1 17. (canceled)

1 18. (original) The network element of claim 16, wherein the network element
2 comprises a repeater.

1 19. (original) The network element of claim 18, wherein the at least one gain element
2 comprises at least one of an optical amplifier and a pump source.

1 20. (previously presented) In a lightwave communication system having a plurality of
2 network elements for supplying an optical signal adapted for transmission in an optical
3 fiber path, an apparatus for controlling power of an optical signal propagating in the
4 optical fiber path comprising:

5 means for detecting loss of a supervisory signal counter-propagating in the optical
6 fiber path;

7 a first automatic power reduction circuit for reducing the power level of an optical
8 data signal output to the optical fiber path from a first network element by a
9 predetermined amount in response to the loss of the supervisory signal in the optical fiber
10 path;

11 means for detecting loss of the optical data signal propagating in the optical fiber
12 path;

13 a second automatic power reduction circuit for reducing counter-propagating
14 optical power output from a second network element by a predetermined amount in
15 response to the loss of the optical data signal; and

16 a controller, in response to the absence of the counter-propagating supervisory
17 signal, provides an indication to a third network element that the supervisory signal is
18 absent.

Serial No. 10/092.746

Page 6 of 12

21. (canceled)